



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of  
Per-Olof BRANDT  
Application No.: 09/994,844  
Filing Date: November 28, 2001  
Title: A RADIO FREQUENCY AMPLIFYING CIRCUIT

Group Art Unit: 2819  
Examiner: Linh Nguyen  
Confirmation No.: 8450

AMENDMENT/REPLY TRANSMITTAL LETTER

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Enclosed is a reply for the above-identified patent application.

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- ☐ A Petition for Extension of Time is also enclosed.
- ☐ Terminal Disclaimer(s) and the ☐ \$55.00 (2814) ☐ \$110.00 (1814) fee per Disclaimer due under 37 C.F.R. § 1.20(d) are also enclosed.
- ☐ Also enclosed is/are \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- ☐ Small entity status is hereby claimed.
- ☐ Applicant(s) requests continued examination under 37 C.F.R. § 1.114 and enclose the ☐ \$385.00 (2801) ☐ \$770.00 (1801) fee due under 37 C.F.R. § 1.17(e).
- ☐ Applicant(s) requests that any previously unentered after final amendments not be entered. Continued examination is requested based on the enclosed documents identified above.
- ☐ Applicant(s) previously submitted \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ on \_\_\_\_\_  
for which continued examination is requested.
- ☐ Applicant(s) requests suspension of action by the Office until at least \_\_\_\_\_, which does not exceed three months from the filing of this RCE, in accordance with 37 C.F.R. § 1.103(c). The required fee under 37 C.F.R. § 1.17(i) is enclosed.
- ☐ A Request for Entry and Consideration of Submission under 37 C.F.R. § 1.129(a) (1809/2809) is also enclosed.

- ☒ No additional claim fee is required.
- ☐ An additional claim fee is required, and is calculated as shown below.

AMENDED CLAIMS					
	No. of Claims	Highest No. of Claims Previously Paid For	Extra Claims	Rate	Additional F e
Total Claims		MINUS =	0	x \$18.00 (1202) =	\$ 0.00
Independent Claims		MINUS =	0	x \$86.00 (1201) =	\$ 0.00
If Amendment adds multiple dependent claims, add \$290.00 (1203)					
Total Claim Amendment Fee					\$ 0.00
<input type="checkbox"/> Small Entity Status claimed - subtract 50% of Total Claim Amendment Fee					\$ 0.00
<b>TOTAL ADDITIONAL CLAIM FEE DUE FOR THIS AMENDMENT</b>					<b>\$ 0.00</b>

- ☐ A check in the amount of \_\_\_\_\_ is enclosed for the fee due.
- ☐ Charge \_\_\_\_\_ to Deposit Account No. 02-4800.

The Director is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17, 1.20(d) and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800. This paper is submitted in duplicate.

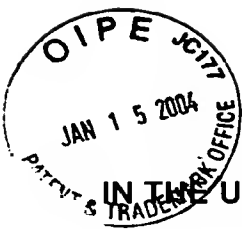
Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

P.O. Box 1404  
Alexandria, Virginia 22313-1404  
(703) 836-6620

Date: January 15, 2004

By Penny L. Caudle  
Penny L. Caudle  
Registration No. 46,607



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In re Patent Application of )

Per-Olof BRANDT )

Application No.: 09/994,844 )

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For: A RADIO FREQUENCY  
AMPLIFYING CIRCUIT )

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REQUEST FOR RECONSIDERATION

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In response to the Official Action mailed October 15, 2003, Applicant respectfully requests favorable reconsideration and withdrawal of the rejection of claims 1-7 in view of the remarks presented herein below.

In paragraph 4, the Office Action rejects claims 1-4 under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 4,827,270 to Udagawa et al. ("Udagawa"). Applicant respectfully traverses this rejection.

Independent claim 1 defines a hybrid coupler comprising four *differential* ports. Furthermore, the hybrid coupler is arranged to couple *differential* radio frequency signals from at least one *differential* port to at least one other *differential* port.

Udagawa discloses an antenna device for detecting the direction of an object lying in a low angle. The device includes, among other things, a plurality of antenna elements feed by a central feed or a peripheral feed, and a hybrid circuit connected

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to the central and peripheral feeds. However, Udagawa fails to disclose or suggest the hybrid circuit comprises four *differential* ports.

In rejecting claim 1, the Examiner asserts that Udagawa discloses a hybrid circuit comprising a differential port inasmuch as Udagawa refers to the input terminals of the hybrid circuit as the sum terminal and the differential terminal. However, Udagawa's use of the label "dif" or "differential" terminal does not mean that the terminal is a differential port capable of handling differential signals as claimed. To the contrary, the labels of Udagawa refer to the resulting aperture distribution for the antenna device as discussed below.

According to Udagawa, when a radio frequency input signal is introduced into the A-terminal 102 of the hybrid circuit, the two groups of antenna elements (central and peripheral) will radiate in phase corresponding to the aperture distribution of figure 2c. This corresponds to the *sum* of the distributions of figures 2a and 2b. Accordingly, Udagawa refers to this input as the sum terminal. When a radio frequency input signal is introduced in the B-terminal 107, the two groups of antenna elements will radiate with opposite phase corresponding to the aperture distribution of figure 3a. This corresponds to the difference between the distributions of figures 2a and 2b. Accordingly, Udagawa refers to this input terminal as the diff or differential terminal. However, nowhere in Udagawa is there any disclosure or suggestion of differential radio signals much less a hybrid coupler comprising four *differential* ports configured to couple *differential* radio signals as claimed. Therefore, Udagawa fails to anticipate claim 1.

Claims 2 and 3 depend from independent claim 1. Therefore, claims 2 and 3 are patentably distinguishable over Udagawa for at least those reasons presented

above with respect to claim 1. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 1-3 under 35 U.S.C. §1029b)

In paragraph 5, the Office Action rejects claims 4-7 under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 3,911,372 to Seidel ("Seidel") in view of Udagawa<sup>1</sup>. Applicant respectfully traverses this rejection.

Claims 4-7 variously depend from independent claim 1. Therefore, claims 4-7 are patentably distinguishable over Udagawa for at least those reasons presented above with respect to claim 1.

Seidel discloses an amplifier circuit with matched input and output impedance. The amplifier includes, among other things, a first and second 3db hybrid coupler. However, as acknowledged, by the Office Action, Seidel fails to disclose or suggest that the hybrid coupler comprises four *differential* ports as claimed.

It is well known that in order to support a rejection under 35 U.S.C. §103, three basic criteria must be met. First there must be some motivation to combine the applied references. Second, there must be a reasonable expectation of success, and finally, the combination must teach each and every claimed element. In the present case, the rejection of claims 4-7 in view of the combination of Seidel and Udagawa is improper for at least the reasons that the combination of Seidel and Udagawa fails to disclose or suggest a hybrid coupler that comprises each and every claimed element, more specifically four differential ports. Accordingly, Applicant

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<sup>1</sup> Applicant notes that paragraph 5 of the Office Action actually states the claims 4-7 are rejected under 35 U.S.C. §102(b) as being anticipated by Seidel in view of Udagawa. However, it appears from the text of the rejection, that the Examiner intended to reject claims 4-7 under 35 U.S.C. §103(a). Accordingly, this response addresses the rejection of claims 4-7 as being under 35 U.S.C. §103.

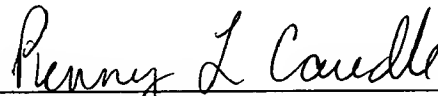
respectfully requests reconsideration and withdrawal of the rejection of claims 4-7 under 35 U.S.C. §103.

This application is in condition for allowance. Notice of same is earnestly solicited. Should the Examiner have any questions regarding this application, the Examiner is invited to call the undersigned at the telephone number provided below.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By:



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Date: January 15, 2004

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